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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/763,949	01/23/2004	Andrei Darievich Mirzabekov	U 014998-5	5066

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NEW YORK, NY 10023

EXAMINER
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STEELE, AMBER D

ART UNIT	PAPER NUMBER
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1639

DATE MAILED: 06/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/763,949	MIRZABEKOV ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Amber D. Steele	1639	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-34 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input checked="" type="checkbox"/> Other: <u>Notice to Comply</u> .                 |

## DETAILED ACTION

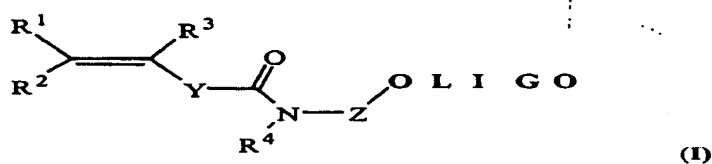
### *Status of the Claims*

1. Claims 1-34 are currently pending and under consideration.

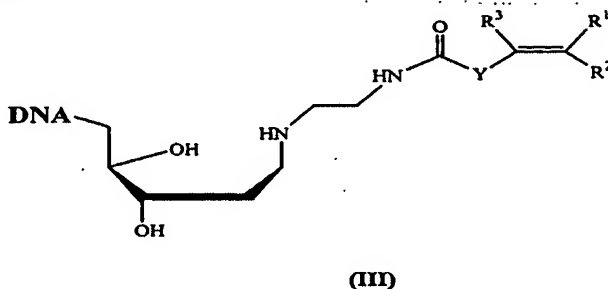
### *Election/Restrictions*

2. Restriction to one of the following inventions is required under 35 U.S.C. 121:

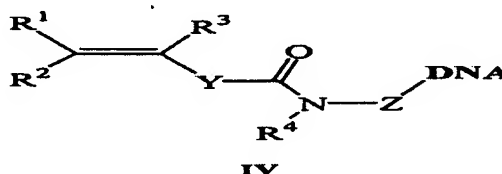
- I. Claims 1-6 and 13-16, drawn to a composition with formula I (see below),  
classified in class 514, subclass 1+.



- II. Claims 1-5, 7, and 13-16, drawn to a composition with formula II (5'-X-O-DNA-3'-O-Z), classified in class 514, subclass 1+.
- III. Claims 1-5, 8, and 13-16, drawn to a composition with formula III (see below),  
classified in class 514, subclass 1+.

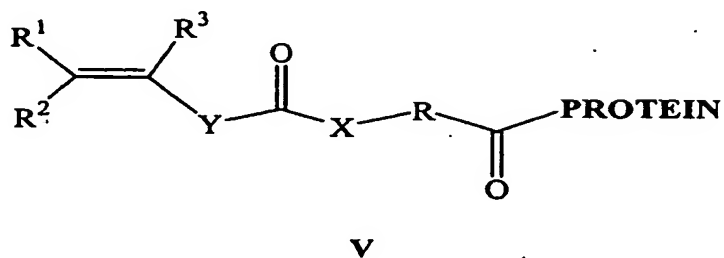


- IV. Claims 1-5, 9, and 13-16, drawn to a composition with formula IV (see below),  
classified in class 514, subclass 1+.

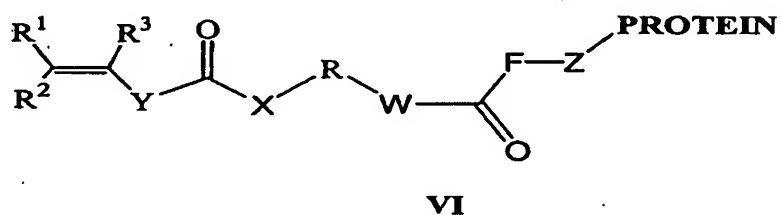


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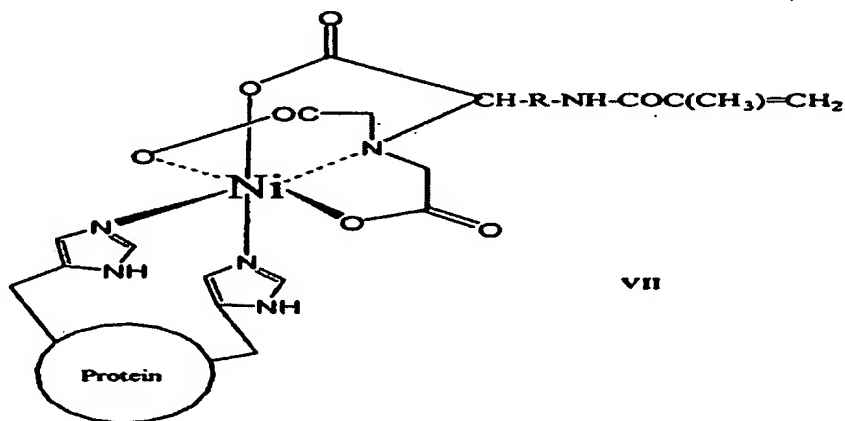
- V. Claims 1-5, 10, and 13-16, drawn to a composition with formula V (see below),  
classified in class 424, subclass 184.1+.



- VI. Claims 1-5, 11, and 13-16, drawn to a composition with formula VI (see below),  
classified in class 424, subclass 184.1+.



- VII. Claims 1-5, 12, and 13-16, drawn to a composition with formula VII (see below),  
classified in class 424, subclass 184.1+.

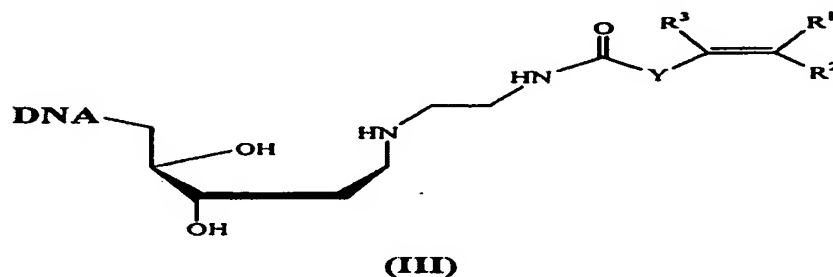


- VIII. Claim 17, drawn to a method of preparing a composition, classified in class 536,  
subclass 25.3 or class 530, subclass 333+.

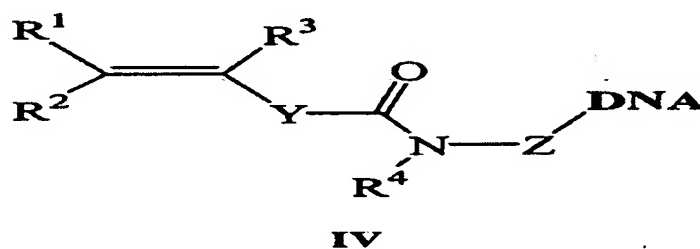
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IX. Claim 18, drawn to modified DNA fragments comprising formula II (5'-X-O-DNA-3'-O-Z), classified in class 536, subclass 23.1.

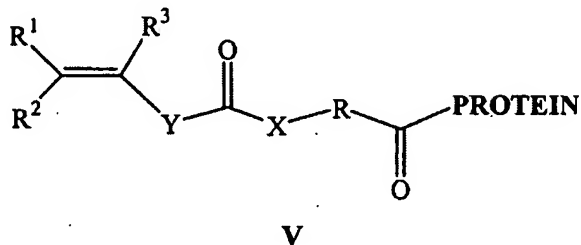
X. Claim 18, drawn to modified DNA fragments with formula III (see below), classified in class 536, subclass 23.1.



XI. Claim 18, drawn to the modified DNA fragments with formula IV (see below), classified in class 536, subclass 23.1.

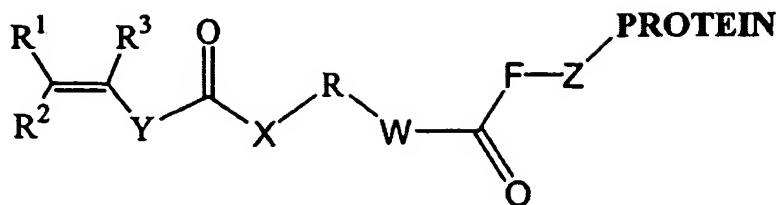


XII. Claim 19, drawn to the modified proteins with the formula V (see below), classified in class 530, subclass 350+.



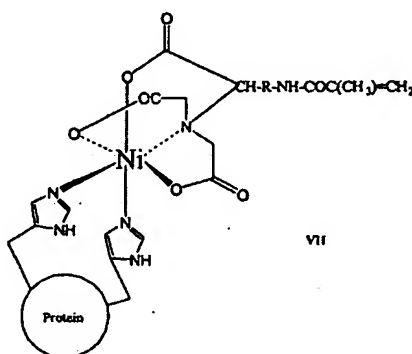
XIII. Claim 19, drawn to the modified proteins with the formula VI (see below), classified in class 530, subclass 350+.

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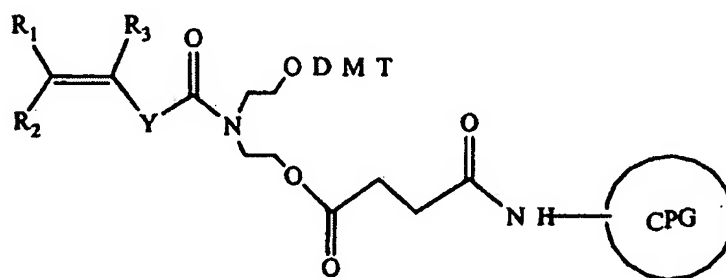
VI

- XIV. Claim 19, drawn to the modified proteins with the formula VII (see below),  
classified in class 530, subclass 350+.

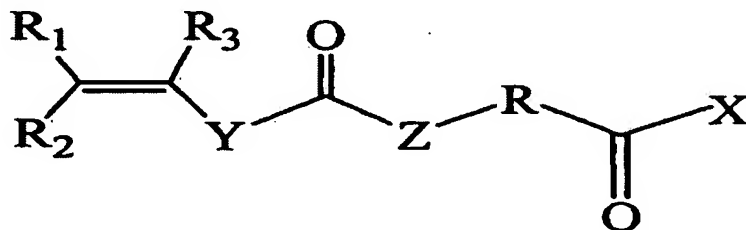


VII

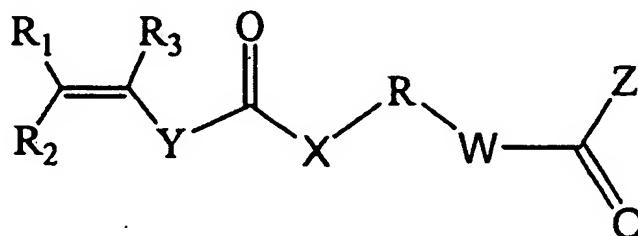
- XV. Claim 20, drawn to the modified porous glass of the structure shown below,  
classified in class 436, subclass 527.



- XVI. Claim 21, drawn to the activated esters of the structure shown below, classified in  
class 514, subclass 68.



- XVII. Claim 22, drawn to the carbonyl compounds of the structure shown below,  
classified in class 423, subclass 416.



- XVIII. Claim 23, drawn to the methacrylamide derivatives of the formula  $\text{CH}_2=\text{C}(\text{Me})\text{-CO-NH-R-CH}(\text{COOH})\text{-N}(\text{CH}_2\text{COOH})_2$ , classified in class 522, subclass 175.
- XIX. Claims 24-32, drawn to a biochip, classified in class 435, subclass DIG 40.
- XX. Claim 33, drawn to a method of performing PCR via addition of amplification solution and incubation, classified in class 435, subclass 6.
- XXI. Claim 34, drawn to a method of performing PCR via isothermal incubation with hybridization solution, isothermal incubation, replacement, and incubation, classified in class 435, subclass 91.2.
3. The inventions are distinct, each from the other because of the following reasons:
- A. Inventions I-VII and IX-XIX are directed to related products. The related inventions are distinct if the inventions as claimed do not overlap in scope, i.e., are mutually exclusive; the inventions as claimed are not obvious variants; and the inventions as claimed are either not capable of use together or can have a materially different design, mode of operation, function, or effect. See MPEP § 806.05(j). In the instant case, the inventions as claims have a

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materially different design and/or function. For example, Groups I-IV are compositions of structure K wherein nucleic acids of different structures/formulas (see section 2 above) are utilized while Groups V-VII are compositions of structure K wherein amino acids of different structures/formulas (see section 2 above) are utilized. In addition, the products of Groups IX-XIX have different structures and/or chemical compounds (see section 2 above).

B. Inventions VIII and XX-XXI are directed to related processes. The related inventions are distinct if the inventions as claimed do not overlap in scope, i.e., are mutually exclusive; the inventions as claimed are not obvious variants; and the inventions as claimed are either not capable of use together or can have a materially different design, mode of operation, function, or effect. See MPEP § 806.05(j). In the instant case, the processes as claimed have a materially different design. For example, Group VIII requires preparing composition K which is not required by the processes of Groups XX-XXI. In addition, Group XX requires the method step of addition of amplification solution which is not required by either of Groups VIII or XXI. Furthermore, Group XXI requires the method step of isothermal incubation of a biochip with hybridization solution which is not required by either of Groups VIII or XX.

C. Inventions VIII (process) and I-VII and XIX (products) are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make another and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the products as claimed can be made by another and materially different process (e.g. chemical synthesis of polynucleotides or polypeptides followed by ligation to additional desired groups).



D. Inventions IX-XVIII (products) and VIII (process) are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case, the products as claimed can be utilized in a materially different process (e.g. methods of producing "single" chemical product and not compositions wherein the product as claimed could be modified; method of making modified DNA molecules; method of making modified proteins; method of making modified porous glass; method of making modified esters; method of making modified carbonyls; method of making modified methacrylamides).

E. Inventions I-IV, IX-XI, XIX (products) and XX-XXI (processes) are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case, the process for using the product as claimed can be practiced with a materially different product (e.g. primers, template, nucleic acids, buffers,  $Mg^{++}$ , polymerase).

F. Inventions XX-XXI (processes) and V-VII and XII-XVIII (products) are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions are not disclosed as capable of use together. While some of the products can be utilized to make the biochips used in the methods,

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the products themselves can not be utilized in the PCR reaction. The products and processes have different designs and/or modes of operation. For example, a protein other than polymerase (e.g. Group XII-XIV) are not necessary for a PCR reaction. In addition, porous glass, esters, carbonyl, or methacrylamides are not necessary for a PCR reaction.

4. Because these inventions are independent or distinct for the reasons given above and
  - a. have acquired a separate status in the art in view of their different classification (e.g. class and/or subclass; please refer to section 2 above), and/or
  - b. require a different field of search, and/or
  - c. have acquired a separate status in the art because of their recognized divergent subject matter,restriction for examination purposes as indicated is proper. (See MPEP § 808.02).

#### *Election of Species*

5. This application contains claims directed to the following patentably distinct species of the claimed invention for Groups I-XIX. Election is required as follows.

6. If applicant elects the invention of Group I, the applicant is required to elect a single, specific species from **each** of the following species A-B.

- A. species of composition (formula K)

The election should result in a *particularly defined* core structure for the claimed composition. In defining this core structure, all variable groups should be defined (i.e. all atoms and bonds shown). Therefore, applicants must elect a single species for each of the variable

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groups A, B, C, D, E. Furthermore, applicant should **NOT** use general notations (e.g.  $R^1$ ,  $R^2$ , etc.) when defining the structure because these labels represent more than one chemical group and thus more than one compound would be erroneously elected.

B. species of formula I

Applicant must elect, for the purposes of search, a **single, specific species** of formula I that would result in defining the variable C of the formula K above.

Claim 1 is generic to the species listed above. The species are independent or distinct because the structure and/or functions are different. In addition, it would necessarily be unduly burdensome to search each of the above species of the presently claimed invention since it would entail different and separately burdensome manual/computer bibliographic searches in the patent and nonpatent literature databases and/or additionally a reference against one species may not necessarily anticipate or render obvious the other and/or the different species may elicit different issues under 35 U.S.C. 112.

7. If applicant elects the invention of Group II, the applicant is required to elect a single, specific species from **each** of the following species A-B.

A. species of composition (formula K)

The election should result in a **particularly defined** core structure for the claimed composition. In defining this core structure, all variable groups should be defined (i.e. all atoms and bonds shown). Therefore, applicants must elect a single species for each of the variable

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groups A, B, C, D, E. Furthermore, applicant should **NOT** use general notations (e.g.  $R^1$ ,  $R^2$ , etc.) when defining the structure because these labels represent more than one chemical group and thus more than one compound would be erroneously elected.

B. species of formula II

Applicant must elect, for the purposes of search, a **single, specific species** of formula II that would result in defining the variable C of the formula K above.

Claim 1 is generic to the species listed above. The species are independent or distinct because the structure and/or functions are different. In addition, it would necessarily be unduly burdensome to search each of the above species of the presently claimed invention since it would entail different and separately burdensome manual/computer bibliographic searches in the patent and nonpatent literature databases and/or additionally a reference against one species may not necessarily anticipate or render obvious the other and/or the different species may elicit different issues under 35 U.S.C. 112.

8. If applicant elects the invention of Group III, the applicant is required to elect a single, specific species from **each** of the following species A-B.

A. species of composition (formula K)

The election should result in a **particularly defined** core structure for the claimed composition. In defining this core structure, all variable groups should be defined (i.e. all atoms and bonds shown). Therefore, applicants must elect a single species for each of the variable

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groups A, B, C, D, E. Furthermore, applicant should **NOT** use general notations (e.g.  $R^1$ ,  $R^2$ , etc.) when defining the structure because these labels represent more than one chemical group and thus more than one compound would be erroneously elected.

B. species of formula III

Applicant must elect, for the purposes of search, a **single, specific species** of formula III that would result in defining the variable C of the formula K above.

Claim 1 is generic to the species listed above. The species are independent or distinct because the structure and/or functions are different. In addition, it would necessarily be unduly burdensome to search each of the above species of the presently claimed invention since it would entail different and separately burdensome manual/computer bibliographic searches in the patent and nonpatent literature databases and/or additionally a reference against one species may not necessarily anticipate or render obvious the other and/or the different species may elicit different issues under 35 U.S.C. 112.

9. If applicant elects the invention of Group IV, the applicant is required to elect a single, specific species from **each** of the following species A-B.

A. species of composition (formula K)

The election should result in a **particularly defined** core structure for the claimed composition. In defining this core structure, all variable groups should be defined (i.e. all atoms and bonds shown). Therefore, applicants must elect a single species for each of the variable

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groups A, B, C, D, E. Furthermore, applicant should **NOT** use general notations (e.g.  $R^1$ ,  $R^2$ , etc.) when defining the structure because these labels represent more than one chemical group and thus more than one compound would be erroneously elected.

B. species of formula IV

Applicant must elect, for the purposes of search, a **single, specific species** of formula IV that would result in defining the variable C of the formula K above.

Claim 1 is generic to the species listed above. The species are independent or distinct because the structure and/or functions are different. In addition, it would necessarily be unduly burdensome to search each of the above species of the presently claimed invention since it would entail different and separately burdensome manual/computer bibliographic searches in the patent and nonpatent literature databases and/or additionally a reference against one species may not necessarily anticipate or render obvious the other and/or the different species may elicit different issues under 35 U.S.C. 112.

10. If applicant elects the invention of Group V, the applicant is required to elect a single, specific species from **each** of the following species A-B.

A. species of composition (formula K)

The election should result in a **particularly defined** core structure for the claimed composition. In defining this core structure, all variable groups should be defined (i.e. all atoms and bonds shown). Therefore, applicants must elect a single species for each of the variable

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groups A, B, C, D, E. Furthermore, applicant should **NOT** use general notations (e.g.  $R^1$ ,  $R^2$ , etc.) when defining the structure because these labels represent more than one chemical group and thus more than one compound would be erroneously elected.

B. species of formula V

Applicant must elect, for the purposes of search, a **single, specific species** of formula V that would result in defining the variable C of the formula K above.

Claim 1 is generic to the species listed above. The species are independent or distinct because the structure and/or functions are different. In addition, it would necessarily be unduly burdensome to search each of the above species of the presently claimed invention since it would entail different and separately burdensome manual/computer bibliographic searches in the patent and nonpatent literature databases and/or additionally a reference against one species may not necessarily anticipate or render obvious the other and/or the different species may elicit different issues under 35 U.S.C. 112.

11. If applicant elects the invention of Group VI, the applicant is required to elect a single, specific species from **each** of the following species A-B.

A. species of composition (formula K)

The election should result in a **particularly defined** core structure for the claimed composition. In defining this core structure, all variable groups should be defined (i.e. all atoms and bonds shown). Therefore, applicants must elect a single species for each of the variable

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groups A, B, C, D, E. Furthermore, applicant should **NOT** use general notations (e.g.  $R^1$ ,  $R^2$ , etc.) when defining the structure because these labels represent more than one chemical group and thus more than one compound would be erroneously elected.

B. species of formula VI

Applicant must elect, for the purposes of search, a **single, specific species** of formula VI that would result in defining the variable C of the formula K above.

Claim 1 is generic to the species listed above. The species are independent or distinct because the structure and/or functions are different. In addition, it would necessarily be unduly burdensome to search each of the above species of the presently claimed invention since it would entail different and separately burdensome manual/computer bibliographic searches in the patent and nonpatent literature databases and/or additionally a reference against one species may not necessarily anticipate or render obvious the other and/or the different species may elicit different issues under 35 U.S.C. 112.

12. If applicant elects the invention of Group VII, the applicant is required to elect a single, specific species from **each** of the following species A-B.

A. species of composition (formula K)

The election should result in a **particularly defined** core structure for the claimed composition. In defining this core structure, all variable groups should be defined (i.e. all atoms and bonds shown). Therefore, applicants must elect a single species for each of the variable



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groups A, B, C, D, E. Furthermore, applicant should **NOT** use general notations (e.g.  $R^1$ ,  $R^2$ , etc.) when defining the structure because these labels represent more than one chemical group and thus more than one compound would be erroneously elected.

B. species of formula VII

Applicant must elect, for the purposes of search, a **single, specific species** of formula VII that would result in defining the variable C of the formula K above.

Claim 1 is generic to the species listed above. The species are independent or distinct because the structure and/or functions are different. In addition, it would necessarily be unduly burdensome to search each of the above species of the presently claimed invention since it would entail different and separately burdensome manual/computer bibliographic searches in the patent and nonpatent literature databases and/or additionally a reference against one species may not necessarily anticipate or render obvious the other and/or the different species may elicit different issues under 35 U.S.C. 112.

13. If applicant elects the invention of Group VIII, the applicant is required to elect a single, specific species from the following species.

A. species of composition (formula K)

The election should result in a **particularly defined** core structure for the claimed composition. In defining this core structure, all variable groups should be defined (i.e. all atoms and bonds shown). Therefore, applicants must elect a single species for each of the variable

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groups A, B, C, D, E. Furthermore, applicant should **NOT** use general notations (e.g.  $R^1$ ,  $R^2$ , etc.) when defining the structure because these labels represent more than one chemical group and thus more than one compound would be erroneously elected.

Claim 17 is generic to the species listed above. The species are independent or distinct because the structure and/or functions are different. In addition, it would necessarily be unduly burdensome to search each of the above species of the presently claimed invention since it would entail different and separately burdensome manual/computer bibliographic searches in the patent and nonpatent literature databases and/or additionally a reference against one species may not necessarily anticipate or render obvious the other and/or the different species may elicit different issues under 35 U.S.C. 112.

14. If applicant elects the invention of Group IX, the applicant is required to elect a single, specific species from **each** of the following species.

A. species of structure II

Applicant must elect, for the purposes of search, a **single, specific species** of structure II. Furthermore, applicant should **NOT** use general notations (e.g.  $R^1$ ,  $R^2$ , etc.) when defining the structure because these labels represent more than one chemical group and thus more than one compound would be erroneously elected.

Claim 18 is generic to the species listed above. The species are independent or distinct because the structure and/or functions are different. In addition, it would necessarily be unduly burdensome to search each of the above species of the presently claimed invention since it would

entail different and separately burdensome manual/computer bibliographic searches in the patent and nonpatent literature databases and/or additionally a reference against one species may not necessarily anticipate or render obvious the other and/or the different species may elicit different issues under 35 U.S.C. 112.

15. If applicant elects the invention of Group X, the applicant is required to elect a single, specific species from **each** of the following species.

A. species of structure III

Applicant must elect, for the purposes of search, a **single, specific species** of structure III. Furthermore, applicant should **NOT** use general notations (e.g.  $R^1$ ,  $R^2$ , etc.) when defining the structure because these labels represent more than one chemical group and thus more than one compound would be erroneously elected.

Claim 18 is generic to the species listed above. The species are independent or distinct because the structure and/or functions are different. In addition, it would necessarily be unduly burdensome to search each of the above species of the presently claimed invention since it would entail different and separately burdensome manual/computer bibliographic searches in the patent and nonpatent literature databases and/or additionally a reference against one species may not necessarily anticipate or render obvious the other and/or the different species may elicit different issues under 35 U.S.C. 112.

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16. If applicant elects the invention of Group XI, the applicant is required to elect a single, specific species from **each** of the following species.

A. species of structure IV

Applicant must elect, for the purposes of search, a **single, specific species** of structure IV. Furthermore, applicant should **NOT** use general notations (e.g.  $R^1$ ,  $R^2$ , etc.) when defining the structure because these labels represent more than one chemical group and thus more than one compound would be erroneously elected.

Claim 18 is generic to the species listed above. The species are independent or distinct because the structure and/or functions are different. In addition, it would necessarily be unduly burdensome to search each of the above species of the presently claimed invention since it would entail different and separately burdensome manual/computer bibliographic searches in the patent and nonpatent literature databases and/or additionally a reference against one species may not necessarily anticipate or render obvious the other and/or the different species may elicit different issues under 35 U.S.C. 112.

17. If applicant elects the invention of Group XII, the applicant is required to elect a single, specific species from **each** of the following species.

A. species of structure V

Applicant must elect, for the purposes of search, a **single, specific species** of structure V. Furthermore, applicant should **NOT** use general notations (e.g.  $R^1$ ,  $R^2$ , etc.) when defining the structure because these labels represent more than one chemical group and thus more than one compound would be erroneously elected.

Claim 19 is generic to the species listed above. The species are independent or distinct because the structure and/or functions are different. In addition, it would necessarily be unduly burdensome to search each of the above species of the presently claimed invention since it would entail different and separately burdensome manual/computer bibliographic searches in the patent and nonpatent literature databases and/or additionally a reference against one species may not necessarily anticipate or render obvious the other and/or the different species may elicit different issues under 35 U.S.C. 112.

18. If applicant elects the invention of Group XIII, the applicant is required to elect a single, specific species from **each** of the following species.

A. species of structure VI

Applicant must elect, for the purposes of search, a **single, specific species** of structure VI. Furthermore, applicant should **NOT** use general notations (e.g.  $R^1$ ,  $R^2$ , etc.) when defining the structure because these labels represent more than one chemical group and thus more than one compound would be erroneously elected.

Claim 19 is generic to the species listed above. The species are independent or distinct because the structure and/or functions are different. In addition, it would necessarily be unduly burdensome to search each of the above species of the presently claimed invention since it would entail different and separately burdensome manual/computer bibliographic searches in the patent and nonpatent literature databases and/or additionally a reference against one species may not necessarily anticipate or render obvious the other and/or the different species may elicit different issues under 35 U.S.C. 112.

19. If applicant elects the invention of Group XIV, the applicant is required to elect a single, specific species from **each** of the following species.

A. species of structure VII

Applicant must elect, for the purposes of search, a **single, specific species** of structure VII. Furthermore, applicant should **NOT** use general notations (e.g. R<sup>1</sup>, R<sup>2</sup>, etc.) when defining the structure because these labels represent more than one chemical group and thus more than one compound would be erroneously elected.

Claim 19 is generic to the species listed above. The species are independent or distinct because the structure and/or functions are different. In addition, it would necessarily be unduly burdensome to search each of the above species of the presently claimed invention since it would entail different and separately burdensome manual/computer bibliographic searches in the patent and nonpatent literature databases and/or additionally a reference against one species may not

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necessarily anticipate or render obvious the other and/or the different species may elicit different issues under 35 U.S.C. 112.

20. If applicant elects the invention of Group XV, the applicant is required to elect a single, specific species from **each** of the following species.

A. species of modified porous glass structure (please refer to claim 20)

Applicant must elect, for the purposes of search, a **single, specific species** of modified porous glass structure. Furthermore, applicant should **NOT** use general notations (e.g.  $R^1$ ,  $R^2$ , etc.) when defining the structure because these labels represent more than one chemical group and thus more than one compound would be erroneously elected.

Claim 20 is generic to the species listed above. The species are independent or distinct because the structure and/or functions are different. In addition, it would necessarily be unduly burdensome to search each of the above species of the presently claimed invention since it would entail different and separately burdensome manual/computer bibliographic searches in the patent and nonpatent literature databases and/or additionally a reference against one species may not necessarily anticipate or render obvious the other and/or the different species may elicit different issues under 35 U.S.C. 112.

21. If applicant elects the invention of Group XVI, the applicant is required to elect a single, specific species from **each** of the following species.

A. species of activated ester structure (please refer to claim 21)

Applicant must elect, for the purposes of search, a **single, specific species** of activated ester structure. Furthermore, applicant should **NOT** use general notations (e.g.  $R^1$ ,  $R^2$ , etc.) when defining the structure because these labels represent more than one chemical group and thus more than one compound would be erroneously elected.

Claim 21 is generic to the species listed above. The species are independent or distinct because the structure and/or functions are different. In addition, it would necessarily be unduly burdensome to search each of the above species of the presently claimed invention since it would entail different and separately burdensome manual/computer bibliographic searches in the patent and nonpatent literature databases and/or additionally a reference against one species may not necessarily anticipate or render obvious the other and/or the different species may elicit different issues under 35 U.S.C. 112.

22. If applicant elects the invention of Group XVII, the applicant is required to elect a single, specific species from **each** of the following species.

A. species of carbonyl compound structure (please refer to claim 22)

Applicant must elect, for the purposes of search, a **single, specific species** of carbonyl compound structure. Furthermore, applicant should **NOT** use general notations (e.g.  $R^1$ ,  $R^2$ , etc.) when defining the structure because these labels represent more than one chemical group and thus more than one compound would be erroneously elected.



Claim 22 is generic to the species listed above. The species are independent or distinct because the structure and/or functions are different. In addition, it would necessarily be unduly burdensome to search each of the above species of the presently claimed invention since it would entail different and separately burdensome manual/computer bibliographic searches in the patent and nonpatent literature databases and/or additionally a reference against one species may not necessarily anticipate or render obvious the other and/or the different species may elicit different issues under 35 U.S.C. 112.

23. If applicant elects the invention of Group XVIII, the applicant is required to elect a single, specific species from **each** of the following species.

A. species of methacrylamide derivative of nitrilotriacetic acid structure (please refer to claim 23)

Applicant must elect, for the purposes of search, a **single, specific species** of methacrylamide derivative of nitrilotriacetic acid structure. Furthermore, applicant should **NOT** use general notations (e.g.  $R^1$ ,  $R^2$ , etc.) when defining the structure because these labels represent more than one chemical group and thus more than one compound would be erroneously elected.

Claim 23 is generic to the species listed above. The species are independent or distinct because the structure and/or functions are different. In addition, it would necessarily be unduly burdensome to search each of the above species of the presently claimed invention since it would entail different and separately burdensome manual/computer bibliographic searches in the patent

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and nonpatent literature databases and/or additionally a reference against one species may not necessarily anticipate or render obvious the other and/or the different species may elicit different issues under 35 U.S.C. 112.

24. If applicant elects the invention of Group XIX, the applicant is required to elect a single, specific species from **each** of the following species A-B.

A. species of biochip

Applicant must elect, for the purposes of search, a **single, specific species** of biochip.

B. species of how biochip is made

Applicant must elect, for the purposes of search, a **single, specific species** of how biochip is made.

Claim 24 is generic to the species listed above. The species are independent or distinct because the structure and/or functions are different. In addition, it would necessarily be unduly burdensome to search each of the above species of the presently claimed invention since it would entail different and separately burdensome manual/computer bibliographic searches in the patent and nonpatent literature databases and/or additionally a reference against one species may not necessarily anticipate or render obvious the other and/or the different species may elicit different issues under 35 U.S.C. 112.

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25. Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable.

26. Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and **a listing of all claims readable thereon, including any claims subsequently added.** An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

27. Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

28. Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention. Because the above restriction/election requirement is complex, a telephone call to applicant to request an oral election was not made. See MPEP § 812.01.

29. The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and

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specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

30. Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C.103(a) of the other invention.

31. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

32. The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and a product claim is subsequently found allowable, withdrawn process claims that depend from or otherwise include all the limitations of the allowable product claim will be rejoined in accordance with the provisions of MPEP § 821.04. Process claims that depend from or otherwise include all the limitations of the patentable product will be entered as a matter of right if the amendment is presented prior to final rejection

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or allowance, whichever is earlier. Amendments submitted after final rejection are governed by 37 CFR 1.116; amendments submitted after allowance are governed by 37 CFR 1.312.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all the criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103, and 112. Until an elected product claim is found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowed product claim will not be rejoined. See "Guidance on Treatment of Product and Process Claims in light of *In re Ochiai*, *In re Brouwer* and 35 U.S.C. § 103(b)," 1184 O.G. 86 (March 26, 1996). Additionally, in order to retain the right to rejoinder in accordance with the above policy, applicant is advised that the process claims should be amended during prosecution either to maintain dependency on the product claims or to otherwise include the limitations of the product claims. Failure to do so may result in a loss of the right to a rejoinder. Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

### ***Sequence Compliance***

33. This application contains sequence disclosures that are encompassed by the definitions for nucleotide and/or amino acid sequences set forth in 37 CFR 1.821 (a)(1) and (a)(2). However, this application fails to comply with the requirements of 37 CFR 1.821 through 1.825 for the reason(s) set forth on the attached Notice to Comply with requirements for Patent applications

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containing nucleotide sequence and/or amino acid sequence disclosures. The amendment to the specification received on July 21, 2004 inserted sequences without corresponding SEQ ID NOs.

Please refer to page 3 in particular.

Applicant is requested to return a copy of the attached Notice to Comply with the response.

***Future Communications***

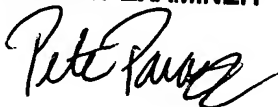
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amber D. Steele whose telephone number is 571-272-5538. The examiner can normally be reached on Monday through Friday 9:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Paras can be reached on 571-272-4517. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ADS  
June 9, 2006

**PETER PARAS, JR.  
PRIMARY EXAMINER**



<b>Notice to Comply</b>	<b>Application No.</b> 10/763,949	<b>Applicant(s)</b> M IRZABEKOV ET AL.	
	<b>Examiner</b> Amber Steele	<b>Art Unit</b> 1639	

**NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS  
CONTAINING NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE  
DISCLOSURES**

Applicant must file the items indicated below within the time period set in the Office action to which the Notice is attached to avoid abandonment under 35 U.S.C. § 133 (extensions of time may be obtained under the provisions of 37 CFR 1.136(a)).

The nucleotide and/or amino acid sequence disclosure contained in this application does not comply with the requirements for such a disclosure as set forth in 37 C.F.R. 1.821 - 1.825 for the following reason(s):

- ☒ 1. This application clearly fails to comply with the requirements of 37 C.F.R. 1.821-1.825. Applicant's attention is directed to the final rulemaking notice published at 55 FR 18230 (May 1, 1990), and 1114 OG 29 (May 15, 1990). If the effective filing date is on or after July 1, 1998, see the final rulemaking notice published at 63 FR 29620 (June 1, 1998) and 1211 OG 82 (June 23, 1998).
- ☐ 2. This application does not contain, as a separate part of the disclosure on paper copy, a "Sequence Listing" as required by 37 C.F.R. 1.821(c).
- ☐ 3. A copy of the "Sequence Listing" in computer readable form has not been submitted as required by 37 C.F.R. 1.821(e).
- ☐ 4. A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 C.F.R. 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing."
- ☐ 5. The computer readable form that has been filed with this application has been found to be damaged and/or unreadable as indicated on the attached CRF Diskette Problem Report. A Substitute computer readable form must be submitted as required by 37 C.F.R. 1.825(d).
- ☐ 6. The paper copy of the "Sequence Listing" is not the same as the computer readable form of the "Sequence Listing" as required by 37 C.F.R. 1.821(e).
- ☒ 7. Other: Sequences are not identified with proper SEQ ID NOs:. Please refer to PTO-90C.

**Applicant Must Provide:**

- ☐ An initial or substitute computer readable form (CRF) copy of the "Sequence Listing".
- ☐ An initial or substitute paper copy of the "Sequence Listing", **as well as an amendment specifically directing its entry into the application.**
- ☐ A statement that the content of the paper and computer readable copies are the same and, where applicable, include no new matter, as required by 37 C.F.R. 1.821(e) or 1.821(f) or 1.821(g) or 1.825(b) or 1.825(d).

For questions regarding compliance to these requirements, please contact:

For Rules Interpretation, call (571) 272-2510

For CRF Submission Help, call (571) 272-2501/2583.

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